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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/654,568	09/03/2003	Hidefumi Yoshida	2803.68246	5834

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EXAMINER

SCHECHTER, ANDREW M

ART UNIT	PAPER NUMBER
2871	

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/654,568

Applicant(s)

YOSHIDA ET AL.

Examiner

Andrew Schechter

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16,17,29,31,32 and 57-67 is/are pending in the application.
4a) Of the above claim(s) 31,32,57 and 59-64 is/are withdrawn from consideration.
5) ☒ Claim(s) 58 is/are allowed.
6) ☒ Claim(s) 16,17,29 and 65-67 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 03 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/454,578.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 16 and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by *Kubo et al.*, U.S. Patent No. 6,295,109.

Kubo discloses [see Figs. 1, 7, and 15, for instance] a liquid crystal display apparatus comprising a pair of substrates [1, 2], a liquid crystal layer [5] between them, a plurality of stripe electrodes [21, 32] and a vertical alignment layer [col. 16, lines 23-28] on one of the substrates, said stripe electrode including first [21] and second [32] groups of stripe electrodes parallel to each other supplied with first and second voltages different from each other; a transparent electrode [4] having an entirely solid surface and a vertical alignment layer [col. 16, lines 23-28] formed on the other substrate, and an insulating layer [either 26 or 29] covering at least one of the first and second groups of stripe electrodes and arranged under the alignment layer formed on the one of the substrates. Claim 16 is therefore anticipated.

Considering the additional limitations of claim 29, *Kubo* also discloses that the insulating layer [29] formed on said one substrate under the alignment layer to cover the first and second groups of stripe electrodes is partially removed [at 28] in the vicinity of at least one of the first and second groups of stripe electrodes [32, in this case]. Claim 29 is therefore anticipated.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Kubo et al.*, U.S. Patent No. 6,295,109 in view of *Ohe et al.*, U.S. Patent No. 5,600,464.

Kubo discloses an insulating layer [26] and an alignment layer [col. 16, line 23], but is silent on the materials and volume resistivities of these layers. *Ohe* discloses an analogous insulating layer made of SiN with a volume resistivity of $3.0 \times 10^{14} \Omega\text{cm}$ and an alignment layer made of polyamide with a volume resistivity of $1.0 \times 10^{14} \Omega\text{cm}$. It would have been obvious to one of ordinary skill in the art at the time of the invention to use such materials with the disclosed resistivities for the layers in the device of *Kubo*, motivated by *Ohe's* example and teaching that the LCD using these materials had no residual image (produced good quality displays). Claim 17 is therefore unpatentable.

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5. Claims 65-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over either *Kubo* or *Kubo* in view of *Ohe* as applied above, and further in view of *Katayama*, U.S. Patent No. 6,100,947.

Kubo does not explicitly disclose that a voltage applied to the transparent electrode on the other substrate is the same as either the first or second voltage. *Katayama*, for an analogous LCD, discloses that the voltage V_{COM} applied to the analogous transparent electrode [933] is the same as the second voltage [applied to the storage capacitor electrode, 32 in *Kubo* and 109 in *Katayama*]. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the storage capacitor electrode and common electrode share the same voltage, motivated by *Katayama's* teaching that this allows storage capacitance to be held while stabilizing the voltage applied to the liquid crystal in a convenient manner [col. 11, lines 53-64].

Claims 65-67 are therefore unpatentable.

6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Nishida et al.*, U.S. Patent No. 6,052,168 in view of *Oh et al.*, U.S. Patent No. 6,812,985.

Nishida discloses [see Figs. 4 and 5, for instance] a liquid crystal apparatus comprising a pair of substrates [10], a liquid crystal [7] between them, a plurality of stripe electrodes [1, 2, and 20] and a vertical alignment layer [11] formed on one of said substrates, said stripe electrodes including first [2] and second [1, 20] groups of stripe electrodes parallel to each other, being supplied with first and second voltages (different) respectively, a vertical alignment layer [11] on the other substrate, and an insulating layer [13 or 14] covering at least one of the first and second groups of stripe

electrodes and arranged under the alignment layer formed on the one of said substrates.

Nishida does not disclose a transparent electrode having an entirely solid surface on the other substrate. *Oh* discloses [see Fig. 6, for instance], for an analogous device, a transparent electrode [125] having an entirely solid surface on the other substrate. It would have been obvious to one of ordinary skill in the art at the time of the invention to have such an electrode in the device of *Nishida*, motivated by *Oh*'s teaching that it shields the device from electrostatic discharge from the hand of a user [col. 4, line 62 – col. 5, line 2]. Claim 16 is therefore unpatentable.

Allowable Subject Matter

7. Claim 58 is allowed.

8. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not disclose the liquid crystal display apparatus of claim 58, in particular the limitations that there are a plurality of stripe electrodes per pixel on one substrate, a transparent electrode covering substantially the whole surface of the other substrate, and an insulating layer covering the stripe electrodes, having openings above the stripe electrodes with tapered side walls. Claim 58 is therefore allowed.

Conclusion


9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Schechter whose telephone number is (571) 272-2302. The examiner can normally be reached on Monday - Friday, 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Andrew Schechter
Primary Examiner
Technology Center 2800
14 June 2005